DOCUMENT RESUME

ED 147 113 SE 023 281

TITLE Regional Meeting of Experts on Environmental Education in Europe, Helsinki, Finland, 27-31 January 1977. Final Report.

INSTITUTION United Nations Educational, Scientific, and Cultural Organization, Paris (France). Environmental Education Section.

REPORT NO ED.77/CONF.601/COL.3

PUB DATE 6 Apr 77

NOTE 64p.; For related documents, see SE 023 279-280; Not available in hard copy due tc marginal legibility of original document

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.

DESCRIPTORS *Conference Reports; *Educational Assessment; Elementary Secondary Education; *Environmental Education; Higher Education; Instructional Programs; Nonformal Education; *Program Descriptions; *Program Evaluation; Regional Programs

IDENTIFIERS *Europe; UNESCO

ABSTRACT

This is the final report on the background and proceedings of the Regional Meeting of Experts on Environmental Education in Europe, convened by UNESCO with the collaboration of the Ministry of Education in Finland. The meeting was the last one in a series of five meetings of this type that have been held in all regions of the world as a part of the International Environmental Education Program in UNESCO-UNEP. The purpose of this meeting was to study the present situation and to recommend guidelines for action on environmental education, taking into account the characteristics of the natural, socio-economic, and cultural environment of the region and the countries composing it. This paper includes reports from five working groups concerned with environmental education: (1) at the pre-school, primary, and secondary levels; (2) at the university level; (3) in a nonformal situation; (4) at the national and local levels; and (5) regional cooperation. Lists of recommendations are also given. (MA)

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United Nations Educational, Scientific and Cultural Organization

ED 147113

International Environmental Education Programme — Unesco-UNEP

Regional Meeting of Experts on Environmental Education in Europe

Helsinki, Finland
27-31 January 1977

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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SE 023 281

Final Report
(ED.77/CONF.601/COL.3)

Unesco

This is the final report on the background and proceedings of the Regional Meeting of Experts on Environmental Education in Europe, held in Helsinki (Finland), 27-31 January 1977. An important stage of the Unesco-UNEP Environmental Education Programme, this meeting was convened by Unesco with the collaboration of the Ministry of Education of Finland.

The views expressed in this publication are those of the participants of the Regional Meeting of Experts on Environmental Education in Europe, and do not necessarily reflect the official position of Unesco.

Paris, 6 April 1977
Original: English

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PART I

The Background and Evolution of the Meeting's Tasks

1. The Regional Meeting on Environmental Education for Europe, was held in Helsinki, at the Hanasaari Hanaholmen Swedish Finnish Cultural Centre on 27-31 January 1977. The meeting was organised by Unesco with the cooperation of UNEP and at the generous invitation of the Government of Finland. The meeting was the last one in a series of five meetings of this type that have been held in all regions of the world as a part of the International Environmental Education Programme of Unesco-UNEP.

Objectives

2. The purpose of these regional meetings was to study the situation and to recommend guidelines for action on environmental education, taking into account the different characteristics of the natural, socio-economic and cultural environment of the world regions and the countries composing them.

From this general perspective, the meeting had the following specific objectives:

a) to identify and formulate the general characteristics of the region's environmental situation and the social, economic, cultural, political, aesthetic, legal and ethical implications of the environment that could be affected by educational activities over the short and medium term;

b) to define and adapt the objectives and guiding principles of environmental education which were formulated at the Belgrade International Workshop on Environmental Education(1975) to the region;

c) to analyse environmental education activities and experiences from the point of view of regional needs and objectives;

d) to examine the recommendations made at the Belgrade Workshop in order to establish general action guidelines which are in keeping with the unity and diversity of the environmental situation in the countries of the region from ethnic, political, economic, social, ecological and cultural viewpoints;

e) to expand and reinforce the exchange of information and personnel within the region and, by so doing, encourage the establishment of coordinated environmental education policies;

f) with the preceding objectives as a base, to present proposals and recommendations to the Director-General of Unesco, governments, intergovernmental organizations, non-governmental organizations and other interested institutions, which could be of use in the preparations for the Intergovernmental Conference on Environmental Education. The object of sending these proposals and recommendations would be to encourage the development of environmental education at both regional and international levels.

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Participants

3. Unesco invited experts from the Member States of the European region to attend in a personal capacity. Experts from Austria, Bulgaria, Byelorussian SSR, Canada, Cyprus, Czechoslovakia, Denmark, France, Finland, Federal Republic of Germany, German Democratic Republic, Hungary, Iceland, Italy, Luxembourg, Malta, the Netherlands, Norway, Poland, Rumania, Spain, Sweden, Switzerland, Turkey, Ukrainian SSR, United Kingdom, USA, USSR and Yugoslavia, participated in the meeting.

Meeting Preparations

4. The meeting was jointly prepared by Unesco and representatives of the Government of Finland. A planning meeting with eight participants was convened in Helsinki from 29 June to 1 July 1976, with Mr. K. Wheeler of the Council for Urban Schools Centre (U.K.) as chairman. The members of the planning committee were selected by Unesco and invited to attend the meeting in their personal capacities, for the purpose of advising Unesco on the preparations for the Regional Meeting.

The committee submitted a report to Unesco, suggesting plans for each aspect of the regional meeting: selection of participants, organization of the agenda, location of the meeting, dates, etc. These suggestions were adhered to as much as possible by the Unesco Secretariat, although the committee had no further official function after the planning meeting. Most of the members of this committee participated in the regional meeting either as experts or as observers. In addition to the planning committee, a local organising committee was also formed in Finland chaired by Mrs. K. Wartiovaara. This committee was created to oversee all the practical, local organizational aspects of the meeting and to work closely with the Unesco Secretariat, throughout the meeting.

Documents prepared for the Meeting

5. The following document which was specially prepared for the meeting was made available to participants:

"Environmental Education Needs and Priorities: A Preliminary Survey of the European Region".

The following reference documents were also made available to the participants:

- The Charter and Recommendations from the Belgrade International Workshop;
- A large number of country reports, as well as other information material on environmental education, was supplied by experts and observers attending the meeting.

Opening Session

6. The opening session of the meeting was honoured by the presence of the Secretary-General of the Ministry of Education for Finland, Mr. Jaakko Numminen.

Mrs. K. Wartiovaara, on behalf of the local preparatory committee, welcomed the participants to Finland, and referred briefly to the interest

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of the Finnish Ministry of Education and of the Finnish National Commission for Unesco in the development of regional and international cooperation in environmental education. Mrs. Wartiovaara said that in Finland, public opinion was generally inclined to adopt a positive attitude towards the need for environmental education, but more information and more concrete programme actions were needed. She added, that nowadays the problems of the environment were debated publicly and had a place in the mass media. However, greater public awareness of environmental education was needed, and the hosts and organisers of the meeting were hopeful that the meeting would help towards this end.

Mr. Simon Romero-Lozano, Chief of Unesco's International Environmental Education Programme, greeted the authorities of the Government of Finland and the participants of the meeting, on behalf of the Director-General of Unesco. He spoke of the goals of the meeting and of the results which were expected to emerge from it. He made reference to the Medium Term Plan, approved by the Nineteenth General Conference of Unesco, in which the major problems of the world were identified. On the basis of this identification, the objectives and guidelines that should direct the Organization's activities were outlined. Mr. Romero-Lozano explained that among the ten problem areas identified and translated into objectives and action priorities, there was one that related to man and his environment. He also spoke of the contribution of education to improving individual and group behaviour towards the human environment by means of providing an operative and comprehensive knowledge of the elements and dimensions that make up the environment and its interrelations. Education, he continued, could also make a contribution in this area through the formation of attitudes and the development of abailities in man for the rational and positive use of the environment. Such attitudes and abilities are necessary for man's survival and for the improvement of the quality of human life on our planet. Mr. Romero-Lozano also spoke of the main issues that the meeting should study on the level of conceptualisation in terms of objectives, characteristics, course content and methods in environmental education, and of the strategies used to incorporate environmental education into the overall educational system.

Mr. V. Johnson, who represented UNEP at the meeting, brought greetings from Dr. M.K. Tolba, Executive-Director of UNEP, and explained briefly the role of UNEP in environmental education. He said that he hoped that not only would difficulties which had been unresolved in other regional meetings be considered, but also, that experiences, examples and models which could be useful particularly for countries and groups in the developing regions, would be discussed.

In his opening address to the Regional Meeting on Environmental Education for Europe, Mr. Numminen, Secretary-General of the Ministry of Education for Finland, welcomed the experts and observers on behalf of the Ministry of Education. He referred to Unesco's environmental education programme and expressed the opinion, that not only the aspects of the natural sciences should be taken into account but also the social, economic and cultural viewpoints. Environmental education seemed to have a good position in the Unesco programme and he hoped that the convening of the European Meeting on Environmental Education would also further the implementation of recommendations made by some other recent conferences on related themes. Considering it important to further develop methods of cooperation in environmental education, Mr. Numminen declared the meeting open and wished it every success in its work.

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Organization and Evolution of the Meeting's Tasks

Election of Officers

7. During the first plenary session, the meeting proceeded to elect the officers. Mrs. Wartiovaara (Finland) was elected President, Mr. Alferov (UUSR) and Mr. Stapp (USA) were elected Vice-Presidents, and, Mr. Emmelin (Sweden) was elected Rapporteur-General.

Presentation of the Unesco-UNEP International Programme in Environmental Education - Agenda Item 3

8. The Unesco-UNEP International Programme in Environmental Education was presented in its totality by Mr. S. Romero-Lozano, and two particular components of the programme - pilot projects and the regional meetings - were presented by Mr. V. Kolybine and Mr. L. Rudstrom, respectively.

Mr. Romero-Lozano made the following points:

a) The origin and characteristics of the programme:

The International Programme on Environmental Education is a joint effort by Unesco and UNEP, that was begun in January, 1975. Phase I of this project will end in December, 1977.

This programme was planned as a specific response to recommendation No.96 of the United Nations Conference on the Human Environment, which stated that the Secretary-General, the organizations of the United Nations system, particularly Unesco, and the other international agencies concerned, should, after the customary consultations and agreements, take the necessary steps to prepare an international programme relating to environmental education in school and out-of-school, having an interdisciplinary approach and embracing all levels of education.

The programme is being carried out by a technical and operational unit composed at present of ten specialists from different disciplines and from several regions of the world. This unit acts in close collaboration with the other sectors of Unesco which are conducting programmes in education, science, the social sciences and culture, directly or indirectly related to the problems of man and his environment. It also collaborates closely with Unesco's Regional Offices for Education and its Regional Science Offices.

b) The objectives of the programme are:

(i) to promote the exchange of ideas, information and experiences between countries and different regions of the world on environmental education;

(ii) to promote the development and coordination of research that would lead to a better understanding of the objectives, content and methods of environmental education;

(iii) to design and evaluate new methods, curriculum, didactic materials and programmes in the field of environmental education;

(iv) to assist in the training and improvement of the personnel

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necessary to develop environmental education: teachers, professors, planners, researchers, educational planners and administrators;

(v) to provide technical assistance services to countries involved in working out environmental education programmes.

c) Operational areas of the programme:

(i) research experimentation and development of innovations in the field of environmental education:

the main activities in this area are carried out through a pilot project programme, by 1977, seventeen projects will be in full operation in the regions of Africa, the Arab States, Asia, Europe and Latin America. The projects have been selected based on their innovative potential and the criteria of geographic and socio-cultural distribution, as well as, a balance of emphasis among the different aspects of environmental education;

(ii) gathering, systematisation and dissemination of information on environmental education:

the main tasks accomplished in this area have been the establishment and development of a worldwide network for the circulation of information about institutions and individuals active in environmental education. This system, which will soon be completely computerised, is designed to encourage the exchange of information, link services with identified needs and facilitate the task of the Environmental Education Programme in coordinating international environmental education activities. In addition to the network system, the programme, under this category of activities, publishes a newsletter CONNECT, which appears three times a year in English, French and Spanish, providing information on the activities of the programme as well as on important events in environmental education at both the national and international levels. Currently, this publication reaches some 10,000 readers in all regions of the world;

(iii) advancing the study and deliberation of policies and strategies appropriate for the development of environmental education:

this basic and fundamental aspect of the programme, in its first phase, has had two areas of activity: first, the series of meetings on environmental education beginning with the Belgrade International Workshop, followed by five regional meetings, and the Intergovernmental Conference on Environmental Education which will be held in October 1977, in the USSR. The second area of activity was the worldwide study on "Needs and Priorities" in environmental education, conducted by a survey that was answered by 111 countries from the different regions of the world, and ad hoc missions by consultants who visited 82 developing countries. The results of this survey have been published in reference documents and have been distributed at the regional meetings, and a synthesis of these results will be presented at the Intergovernmental Conference in October.

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d) Mr. Kolybine gave the following resumé of the pilot projects:

The International Environmental Education Programme in its second year of activity commenced its pilot project programme which provides financial assistance for three of four ongoing projects in each region of the world recognised by Unesco.

Environmental education pilot projects involve individuals or groups of all age levels within all the sectors of formal and nonformal education on the one hand, and, within all the socio-economic sectors of the population on the other hand.

With regard to their content, the principal objectives of the projects aim at the development of new curricula related to environmental education, the creation and/or development of environmental education courses or programmes, as well as the training and re-training of teaching personnel (teachers, professors, promoters, etc.,) in environmental education themes and perspectives. During 1976/1977, the Unesco-UNEP Environmental Education Programme has given support to seventeen such pilot projects.

e) Reviewing the four previous regional meetings which have been held since September 1976, in Africa, Asia, the Arab States, and, Latin America and the Caribbean, Mr. Rudstrom explained the purposes, highlights and major outcomes of these meetings. The concept of the "environment" and the concept of "environmental education" have been further clarified by the experts attending the regional meetings although it was not always possible, in the short time available, to delineate specific content areas or major concepts for environmental education programmes in the regions.

Common to all the meetings, has been the realisation of the necessity that environmental problems must be given serious consideration in the development process of each country, and that medium and long term economic planning must take environmental issues and impacts in consideration. The meetings have found that as education is at the core of all development processes, environmental education is an indispensable means of reaching a balanced environmental development. As all people are affected by environmental factors and hazards, and as all people have to make decisions affecting their immediate surroundings, environmental education has to reach all sectors of the population either through formal or nonformal education, and it must be a life-long process.

The objectives of environmental education, as stated in the Belgrade Charter, referring to creating an awareness, imparting knowledge, fostering attitudes, developing skills through participation and action on environmental problems, were considered by the meetings as being valid.

The eight guiding principles for the development of environmental education programmes in the Belgrade Charter were studied in the meetings with regard to their applicability to the respective regions. These principles define "environment" as that which contains both natural and man-made factors, on which environmental education should focus. They also state that environmental education should be a continuous, life-long process, interdisciplinary in nature, and favouring active participation in the prevention and solution of environmental issues and problems. Furthermore, environmental

education should examine major environmental issues from a world point of view and should focus on current and future environmental situations, examine all development and growth from an environmental perspective, and lastly, should promote the value of local, national and international cooperation. The regional meetings found that in general these principles were valid for the development of environmental education programmes.

The regional meetings being the first ones on environmental education held in their respective regions, had, as one of their main functions, the starting or strengthening of regional, sub-regional and national reflection and action, with regard to environmental education. Some guidelines were laid down for sub-regional and regional cooperation, and in general, it was stressed that the fullest use should be made of existing institutions, personnel and resources already available in the regions. A number of recommendations for Unesco-UNEP actions were also made.

In some of the meetings, groups were constituted or regional organizations called upon to follow-up the work done in the meetings, and also to further prepare for the Intergovernmental Conference.

Presentation of the state of the environment in Europe - Agenda Item 4

9. A presentation on the state of the environment in Europe was made by Mr. G. Biryukov of UNEP. The following is a resumé of Mr. Biryukov's presentation:

Mr. Biryukov described the principal trends in environmental protection in the region, where a growing number of specialists were realising the existence of a real danger in the conflict between the activities of human beings and the natural environment. This realisation has resulted in two important consequences: (i) all the Member States of the region were undertaking concrete environmental protection and management activities in their own countries; and, (ii) bilateral and multilateral cooperation has begun to play a role in environmental protection by going beyond national interests to consider environmental questions in their widest scope.

The complex nature of environmental problems is being recognised by more and more people in the region and consequently, many governments have begun to formulate long-term programmes for environmental protection to be introduced into national socio-economic plans. Thus, the deep understanding of the interaction between socio-economic factors and environmental quality has manifested itself in the European region, and the import role which environmental education has to play in the solution of problems resulting from this interaction, has become clear.

Mr. Biryukov also gave examples of the activities of Member States in the protection of water, soil and air, and the role of regional cooperation in this area.

Presentation of the state of environmental education in Europe - Agenda Item 5

10. Under this agenda item the following presentations were made:

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Environmental Education Needs and Priorities: A Preliminary Survey of the European Region (Mr. V. Kolybine, Unesco)

The Commission on Education of the International Union for Conservation of Nature and Natural Resources (IUCN) with Special Reference to Europe (Mr. A. Hoffmann, IUCN)

Environmental Education for European Youth within the International Youth Federation for Environmental Studies and Conservation (Mr. M. Hildén, IYF)

The Promotion of Active Educational Methods in Environmental Education in Europe (Mr. G. Epler, Council of Europe)

Programme of the European Communities for the Promotion of Awareness of Environmental Problems and Education (Mr. R. Gayser, Commission for European Communities)

Nordic Cooperation in Environmental Education (Mr. T. Holtan-Hartwig and Mr. J. Villadsen, Secretariat for Cultural Cooperation in the Nordic Countries)

Organization of Work in Working Groups - Agenda Items 6 to 8

11. The meeting was structured into five working groups to study items 6 to 8 of the agenda. The groups' conclusions and recommendations were presented during plenary sessions. The following illustrates the distribution of subjects by groups, and indicates the respective chairmen and rapporteurs:

Item 6 : Review of environmental education within the formal and nonformal education systems in Europe.

Item 7 : Review of environmental education resources.

Three working groups were established to study these two items and were assigned the following tasks:

Working Group 1 : Environmental education at the pre-school, primary and secondary levels.

Chairman : Mr. R. Bjarnason
Rapporteur : Mr. P. Schneider

Working Group 2 : Environmental education at the university level.

Chairman : Mr. A. Moroni
Rapporteur : Mr. R. Heller

Working Group 3 : Nonformal environmental education for youth and adults.

Chairman : Mr. R. Radovic
Rapporteur : Mr. P. Dionel

Item 8 : Strategies on environmental education for Europe.

Two working groups were formed to study this item as follows:

Working Group 4 : Environmental education at the national and local levels.

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Chairman	: Ms. E. Szalay-Marszó
Rapporteur	: Mr. A. Fyson

Working Group 5 : Regional cooperation in environmental education.

Chairman	: Mr. M. Lahdeoja
Rapporteur	: Mr. I. Dumitru

Groups 1 to 3 met for two days, Friday, 28 January and Saturday, 29 January, and produced draft reports and draft recommendations on their respective topics. Some statements on different aspects of environmental education were prepared by some individuals. These statements sometimes served as background for discussions within the group and for drafting of the recommendations. The statements provide valuable resource materials for the Unesco Secretariat, as do the country reports and other documentation brought to the meeting by the experts and observers.

Groups 4 and 5 met for one afternoon (Sunday, 30 January) and also produced draft reports and recommendations on their respective topics. Group 5, dealing with regional cooperation, was also charged with discussing and drawing up recommendations in connection with the preparations for the Intergovernmental Conference on Environmental Education in Tbilisi, USSR, in October, 1977.

Approval of Recommendations and Report - Agenda Items 9 and 10

12. The meeting, convened in plenary for the closing session on Monday, 31 January, received and took note of the reports of the five working groups. The recommendations from the five working groups were also submitted to the meeting. The reports and recommendations were adopted.

Closure of the Meeting - Agenda Item 11

13. Mr. Romero-Lozano, Chief of Unesco's International Environmental Education Programme, addressed the meeting. He thanked the Finnish authorities for the pleasant and friendly atmosphere in which the meeting had taken place, and the experts and observers for their work and the good results of the meeting.

Mr. Bjarnason (Iceland) on behalf of the participants expressed some words of thanks and, Mrs. Wartiovaara gave a short address and closed the meeting.

PART II

Reports of the Working Groups

Environmental education at the pre-school, primary and secondary levels - Working Group No.1:

1. The group undertook a theoretical reflection of goals, objectives and guiding principles for environmental education. The Belgrade Charter was discussed and accepted, but it was suggested that the environmental education objectives should be defined as sub-goals, since they do not specify any characteristic attitude or knowledge. These sub-goals should be specified as operational objectives as required by local or national situations. Examples were provided by experiences taken from the UK and the USA.

A specific recommendation was that more attention be given to all environmental questions on television and radio. It was suggested that Unesco should organise a film or festival on environmental education programmes.

Many participants emphasised that people must become familiar with environmental problems as early as possible. Therefore, children should have contact with living surroundings in order that they be made aware of things that are affecting the environment, leading to the kind of attitude which would enable them to recognise environmental problems.

The methods of teaching young people were widely discussed. Experiences and proposals from different European countries were given, e.g. methods, materials and other items. Special attention was given to "learning by doing" through a diversity of experiences requiring direct contact with living organisms.

The special problems of environmental education in urban settings were discussed by many participants. In this context the function of "Urban Study Centres" in urban regions was presented and the advantages of these institutions were described. Examples were also given of environmental work in rural areas.

Many participants gave a detailed overview of the state of environmental education in their own countries, especially in the fields of curriculum work and school teaching.

The organisation of environmental education within the existing curricula was discussed. Special difficulties cited were the lack of cooperation up to now between the natural and social sciences. Interdisciplinary teaching, better interpretation of aspects, and more out-of-school training are important considerations at all levels of environmental education.

Some of the members of the group pointed out that behind most of the environmental problems were social conflicts and processes. Due to the multiple character of society, it is nearly impossible to find a consensus of all groups in every case.

The group came to the conclusion that the development by Unesco of the environmental education network is a very urgent matter. The exchange of

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information, lists and other materials is of high priority. Several suggestions were made on how to make this more efficient.

The Unesco-UNEP publication "Connect" should contain a section on "new materials and publications" in order to inform people around the world, on instructional materials and publications and where to obtain the material mentioned.

The arrangement of a so-called "Environmental Education Fair" was proposed as another method of spreading knowledge about environmental education. The publishing of dictionaries to be used by teachers would also be helpful for using materials from different countries.

Another suggestion which was made was for a competition with prizes, between students, classes or schools on matters of environmental relevance.

(i) A summary of previous discussions in terms of preliminary recommendations which might be used as additions to the guiding principles of environmental education in the Belgrade Charter was presented:

a. Environmental education should be interdisciplinary in its approach. The disciplines have a responsibility to identify their special contributions to environmental education and give them due emphasis in teaching programmes.

b. Environmental education should place high emphasis on firsthand experiences and on "learning by doing".

c. Environmental education should utilise diverse learning environments in our communities and train teachers and leaders in ways of using them more effectively.

d. Environmental education should place high priority on pre-school education and the education of pre-school teachers and parents.

e. Environmental education should emphasise: environmental awareness; acquisition of environmental knowledge; values education and environmental ethics; development of problem solving skills; community experiences; participation decision making; critical thinking; and the complexity of environmental issues. This means that greater attention will need to be directed towards the exchange of ideas, information, methods and techniques, materials and teachers (pre-service and in-service) and on leadership education programmes.

f. Environmental education should relate environmental awareness, knowledge, problem solving and valuing at every age level, but with more of an emphasis on environmental awareness and sensitivity in the early years.

g. Environmental educators should consider the variety of teacher-learning methods when focussing on environmental education, such as: field trips; environmental monitoring, demonstrations, projects and experiments; independent study; small group discussions; interviews; investigative reporting; debates; environmental games and simulations; community information retrieval and analysis; values clarification; problem solving activities; and the variety of audio-visual methods (slides, films, cassettes, tapes, video-tapes, etc.).

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h. Environmental education should first focus on the learners' own community, but relating topics being discussed to national, regional and international issues and perspectives.

i. Environmental education should consider the establishment of study centres in urban settings in order to study urban processes and natural phenomena within urban areas. Full cooperation should be established between these study centres and other resources for environmental education in the urban area, including the general urban environment itself.

j. Environmental education should make more effective use of mass media techniques in both in-school and out-of-school programmes.

k. Environmental education should highlight both the possible root causes and symptons of the environmental crisis as well as possible solutions.

(ii) Some major constraints to the development of environmental education in schools were cited:

a. Schools are subject matter oriented, and environmental education is interdisciplinary.

b. Schools tend to avoid values education, and environmental education emphasises valuing processes.

c. Schools tend to avoid social issues and controversy, and environmental education emphasises school and community problem solving.

d. The school programme is quite inflexible, and environmental education emphasises interdisciplinary teaching, community field trips and different teaching methods.

e. The school programme is already crowded and some administrators and teachers view environmental education as yet another subject area.

f. Inadequacies were found to exist with regard to the following: incentives (financial and otherwise) for innovation; personnel trained in environmental education; information and materials on environmental education; knowledge of where to go for information and materials relevant to environmental education; funds for environmental education; facilities for environmental education; guidelines for handling environmental education; school policies concerning environmental education; and, legislation for promoting environmental education.

Environmental education at the university level -- Working Group No.2

2. The discussions gave rise to several ideas which formed the basis for recommendations.

1. Aid from Unesco

The participants expressed their gratitude to Unesco for having organised this meeting which had enabled a very productive exchange of views to take place. It was felt that the comparison of experiences, together with the results both successful and unsuccessful should be continued. Therefore, it was requested that Unesco continue to give assistance in this regard.

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The group was interested to learn about certain research projects in France and the Netherlands which aim to promote perception of environmental problems and develop methods of evaluating this perception. The group would like to see Unesco and the other international organizations assist with the development of such projects.

2. Aims and principles

The group, in agreement with the aims of environmental education as defined in Belgrade, felt that a certain number of principles should be applied in order to attain these aims:

- the environment is a systemic reality and not a sum total of independent factors, thus environmental education has essentially interdisciplinary aims;
- this reality integrates structural, physical, chemical, biological and cultural factors (social, economic and ethical) and the dynamic processes accompanying them (interaction and evolution). The environment has a temporal dimension and must be looked at from the point of view of its past, present and future;
- man is part of his environment and it was stressed that in analysing the environment, abiotic, biotic and cultural factors should not be taken separately;
- culture must be seen as a new ecological factor. Insofar as environmental education represents a strategy for survival and for the quality of life, not only material issues (need for food, place of habitation, etc.,) but also spiritual issues (intellectual and ethical) are involved.

3. Methodology

Environmental education methodology is necessarily varied according to the education traditions, social structures and priority needs of each country.

Environmental education should nevertheless observe one essential methodological principle viz. the training to be given, must be interdisciplinary. However, at the university level, interdisciplinarity can be a reality and not just a matter of form only if it is based on accurate, well-founded and detailed knowledge, including knowledge of the supporting sciences like thermo-dynamics. This means that the roots of interdisciplinarity lie in the individual disciplines, and that interdisciplinarity begins with pluridisciplinarity.

4. Curricula

The statements made by the participants enabled a comparison of curricula to be made; these varied from country to country, and even from university to university within the same country. Nevertheless, curricula can be classified in two categories both of which deserve encouragement:

(i) Training for sectoral specialists (in urban and regional planning, countering pollution and environmental damage, nature conservation and agronomic applications, health care, etc.), associated with specialist training (biology, chemistry, geography, agronomy,

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medicine, sociology, psychology, agriculture, etc.). This is the easiest solution to apply and the one which makes retraining most practicable. It is successfully employed in all countries of Europe.

(ii) Training for environmental generalists, which has the advantage of being based on a genuinely interdisciplinary training given from the start. This training permits a more comprehensive understanding of environmental problems and leads to greater adaptability to local conditions.

Two experiments were described to the group, one in France (Tours), and the other in the USSR (Kazans), which show that they can succeed if carried out with determination. The generalists trained in this way would have more difficulty in undergoing retraining than the specialists trained according to formula (i) if they were unable to find employment connected with the environment but, at the present time, however, the demand for generalists is very high and the problem of employment has not arisen in the countries where the experiments were carried out.

5. Students concerned by environmental education

All students, as well as future environmental specialists should be made aware of environmental problems. Instruction of a very general kind might not go into great detail (e.g. 50 to 60 hours in all) but it should give an idea of all aspects of the environment and should be compulsory. Courses on the environment given to students from several branches of study, help the students to understand each other's activities.

6. Recurrent training

As the years pass, the problems raised by the environment change. Post-graduate refresher courses are thus vital for those occupations concerned with the environment and its problems. This is all the more valid in the case of people with no training in environmental education.

7. Links with research

At university level, all teaching must be based on research if it is not to become fossilised. This rule applies to environmental education as well, even if environmental research is still unequally developed in the various countries and universities. The circulation of the findings of environmental research must be intensified so that the results can be made available to teachers rapidly.

8. Establishment at local level

By its very nature, environmental education will affect the local situation and be influenced by it. In several countries (e.g. the Netherlands) the fact that environmental education has been established at local level is one of the decisive factors in its success.

9. The role of secondary education

It would be unreasonable for the university to have to start environmental education from scratch. The basic ideas and motivations

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must be imparted in secondary education, and this would make the work of the university more effective and more rapid.

10. Teacher training

The group was of opinion that the primary and secondary teachers who teach about environmental problems must themselves have received an environmental education either through a special course or within the traditional branches of study. Recurrent training must be provided for teachers at least from time to time (every five years). The instruction which they receive must cover not only environmental knowledge but also the teaching/learning methods to be used. Field training and the habit of using living materials for environmental education are other important aspects.

11. Post-secondary training outside the university

The group was composed of experts who were more familiar with university problems and it was primarily concerned with environmental education at the university level. Nevertheless, they drew attention to the fact that very few young people go to university and that a large proportion of those whose employment brings them into contact with the environment (technical specialists, farmers, landscape architects, etc.) are trained in non-university institutes, or even in a completely different way (e.g. within the occupation itself). Environmental education is necessary for them too. The group had neither the time nor the competence to discuss this matter but found that the problem deserves study.

Nonformal environmental education -- Working Group No.3

3. The first part of the meeting was used for the presentation of the members of the group and to elaboration of the methodology of the work of the group. The general framework for the work of the group was defined as follows:

(i) goals, objectives, principles of nonformal environmental education;

(ii) creative projects, ideas, models;

(iii) constraints in nonformal environmental education;

(iv) recommendations to overcome the constraints.

The second part of the meeting was used for formulating recommendations. A discussion was held about the structure of the recommendations; the general approach and the particular approach.

The discussions of the group throughout the meeting was centred around some principal questions:

a. It should be seen that nonformal environmental education is much older than formal education. It also covers a much broader field of necessary knowledge, attitudes and capabilities.

b. The question of traditional values, cultural approaches and attitudes in the field of nonformal education was especially stressed.

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c. The necessity to take into account in nonformal environmental education, the totality and integrity of environment (integrating natural, rural and urban environment) should be stressed.

d. Nonformal environmental education by and through activities was discussed. Action seems to be the principal method of nonformal environmental education. Mass media have only limited values.

e. Active participation of adults and young people undergoing environmental education is mandatory. Special attention should be paid to the out-of-school activities of young people dealing with analysis and protection of the natural and man-made environment. Attention should be given to the planning processes, especially in physical planning. Active participation of citizens should be made possible during the whole process. It was pointed out that some changes must be made in urban and rural environmental planning techniques and methods, in order to achieve active participation of all kinds of social groups. Some experiences in active participation in protection of the environment were mentioned.

f. Questions of evaluation and of criteria were raised, especially concerning the document submitted to the meeting by the Secretariat. Some critical remarks were made.

g. Experiences concerning different kinds of dissemination via museums, books, films, slides and all kinds of publicity were discussed.

h. The "Open University" type (oriented to the general public) and other cases of formal environmental education for adults were discussed.

i. Some specific problem areas were identified (energy use, land use, conservation, population). Some experiences should be discussed. List of priorities should be judged unnecessary, but new points should be discussed and added to the list of problem areas (e.g. methodologies, experts, man-power, etc.).

j. Target groups in the field of nonformal environmental education should be discussed (teachers, government officials, decision-makers, etc.).

k. The constraints on environmental education were discussed (legal, institutional and resources).

l. Coordination in nonformal environmental education has to be seen as an important aspect. The lack of coordination, information and cooperation among different organizations, groups and agencies was mentioned as a constraint.

m. The dominance of formal education results in more research being done in this area. There seems to be a definite need for more experimental activities and research projects in nonformal environmental education.

The group made the following statement about nonformal environmental education:

By nonformal environmental education is meant all forms of environmental education realised outside the pre-primary to tertiary education system. Nonformal environmental education must be seen as an

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integral and vital part of environmental education, in some cases even superceding formal education in importance and always, as a means of complementing it. Nonformal makes it possible to continue the environmental education process for the entire population throughout the life of every individual and offers situations for the use of very different and stimulating environmental education methods through mass media, involvement in activities, etc.

Nonformal environmental education must concern all types and sorts of environments (natural, man-made, rural and urban; working, leisure, etc.,) and ideally should include all age and social groups (youth and adults; workers and professionals). It should deal with all aspects and manifestations of the environment, and the way in which we use our natural resources (planning, development, protection, improvement, social life, economic activities and cultural values).

Through mass media programmes and participation in the work of volunteer organizations, etc., it is possible for nonformal environmental education to reach people of different ages and social backgrounds - thus opening the way to a new and synthetic approach to environmental education.

Finally, it should be remembered, that most environmental education in the world is based on informal teaching and learning, and that nonformal environmental education is the simplest and cheapest way of spreading environmental education.

Environmental education at the national and local levels - Working Group No.4

4. This group devoted its limited time to the problem of implementing the Belgrade recommendations under the above heading. They agreed that in order to make implementation possible, it was necessary to modify and to add to these recommendations.

The group observed that in many nations there are communication gaps between various specialists of environmental education, particularly between the curriculum development experts, the teacher trainers and the teachers themselves. National governments developing programmes of environmental education should take particular care to bridge this gap.

Regional cooperation in environmental education - Working Group No.5

5. The chairman opened the meeting and explained the problems which were to be examined:

- development of regional cooperation in environmental education in the European region;
- promotion of sub-regional cooperation in the European region;
- regional preparations for the Intergovernmental Conference.

The group recognised that there exists for the time being a strong need to develop all-European forms of cooperation. The group discussed various possibilities to establish such cooperation and came to the conclusion that Unesco has a unique position among the existing intergovernmental organizations in the European region. The meeting decided to recommend that Unesco should further develop regional cooperation in environmental education activities within the European region.

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The group discussed the possibility of furnishing Unesco with high-level expertise from various sub-regional organizations. There was a general feeling that it would be helpful to Unesco if a contact group, consisting of representatives of sub-regional, intergovernmental, semi-governmental and non-governmental (e.g. IUCN) organizations could be established by Unesco. This type of group could advise Unesco on which programmes should be given priority and how the programmes could be implemented. For example, division of labour between various sub-regional organizations for the implementation of specific programmes or projects could be discussed in this group. The group decided to recommend that Unesco should call together an advisory group on environmental education for the European region. The meeting recommended that this group should consist of representatives of sub-regional organizations and, as far as possible, represent both intergovernmental and non-governmental organizations concerned.

Considering that environmental education can make an important contribution to the international efforts of states to foster peace, understanding, cooperation and the development of friendly relations, it was recommended that Unesco should organise periodic meetings of specialists in environmental education in Member States and establish methods and facilities for cooperation between Member States before the Intergovernmental Conference.

The group of experts from the Nordic countries submitted a document for discussion dealing with different aspects of the Intergovernmental Conference which was somewhat modified during the discussions.

LIST OF RECOMMENDATIONS

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1. Nature and scope of environmental education
2. Environmental topics for worldwide attention
3. European conference on the protection of the environment
4. Regional cooperation - the role of Unesco
5. Sub-regional cooperation

National implementation

6. Coordination at the national level
7. Support for environmental education

Preparations for the Intergovernmental Conference

8. Recommendation for Unesco consideration
9. Recommendation for national consideration

II. SPECIFIC RECOMMENDATIONS FOR THE DEVELOPMENT OF ENVIRONMENTAL EDUCATION

Formal and nonformal education

10. Fostering of attitudes
11. Instructional materials
12. Social, cultural, psychological and ethnological factors
13. relevant to environmental education
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Pre-school, primary and secondary levels of the formal education system:

15. Environmental education should be based on firsthand experience
16. All subject disciplines should contribute to environmental education
17. New teaching methods in environmental education
18. Training of personnel for environmental education
19. Effective teaching

Post-secondary vocational education and professional training

20. Post-secondary vocational education and professional training

University and post-university levels of the formal education system

21. Role of the university
22. Interdisciplinarity
23. Interdisciplinarity
24. Curriculum at the university level for the environment

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25. Environmental education for all students

26. Environmental education for students who specialise in environmental problems

27. Recurrent post-graduate and post-experience training

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28. Ways and means in nonformal environmental education

29. Improvement of existing facilities

30. Provision of further facilities

31. Establishment of green spaces

32. Training of mass media personnel

I. RECOMMENDATIONS OF A GENERAL NATURE

Recommendation 1 : Nature and scope of environmental education

Environmental education should be centred on specific problems, be interdisciplinary in nature, aim at strengthening the sense of values, contribute to collective well-being, concern itself with the survival of humanity, draw strength essentially from the initiative of pupils and from their commitment to action, and take into account present and future preoccupations. Environmental education is essentially multidisciplinary and inter-professional. It is linked with all environmental occupations, disciplines and problems and implies the statement and teaching of the philosophy and concepts of the environment at all stages of the educational process.

Recommendation:

States should acknowledge that everyone is entitled to the benefits of environmental education and consequently:

1. Environmental education should form an integral part of school and post-school curricula and should be provided for in the legislation governing the education system of each country;

2. governments should further the establishment of institutions to train environmental education teachers, community leaders and specialists to a standard adapted to the capacities and needs of their country's educational development;

3. a sufficient number of environmental specialists should be trained to deal with the problems which humanity has to face, and the further training of all specialists directly or indirectly concerned with environmental management and/or improved living conditions which are in harmony with the environment should also be provided for;

4. in all educational and training programmes for specialists whose activities are directly or indirectly concerned with the environment, account should be taken of the importance which environmental problems and ideas can have at the local level;

5. the basic training of these specialists should include the study of environmental, ecological and sociological principles thereby enabling them to foresee the implications of their work on the environment;

6. regional institutes should be established, on the basis of geographical and cultural groupings, to train personnel for environmental education;

7. environmental education programmes should be rooted in four basic elements: the fundamental disciplines, integrated branches of study leading to interdisciplinarity, major environmental problems, and, practical projects at the local level based on real situations.

Recommendation 2 : Environmental topics for worldwide attention

As the problems with which environmental education is confronted are manifold and highly complex, a need is seen for the selection of specific problems from the many involved, in order to effectively encourage action at every level.

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Recommendation:

That Unesco-UNEP, every two years, introduce a topic (such as "oceans") for examination on a worldwide scale. Relevant regional and international organizations should be consulted and involved before choosing the topic. Different regions would reveal different approaches and different needs, and valuable worldwide exchanges should result.

Recommendation 3 : European Conference on the protection of the environment

Taking into account the urgency and importance of bilateral and multilateral cooperation in the European region in a field such as the environment, and bearing in mind the Final Act of the Conference on Security and Cooperation in Europe (Helsinki, 1975):

- the meeting noted with interest that a proposal on organising and conducting a regional conference on environmental issues in the European region had been put forward;

- the meeting emphasised the potential importance of such a meeting from the point of view of environmental education. The results of such a conference could provide valuable practical material for the purposes of environmental education.

Recommendation:

The meeting recommended that when a European Conference on Environmental Protection is held, the promotion of environmental education should be included in its agenda. It was recommended that full use be made of the results of such a conference in environmental education.

It was also recommended that Unesco should take appropriate steps in order to include educational aspects in the deliberations of other regional or sub-regional meetings on environmental issues to be held in the European region.

Recommendation 4 : Regional cooperation - the role of Unesco

Recommendation:

Unesco should further develop regional cooperation in environmental education activities within the European region. The role of Unesco should essentially be the following:

- the stimulation of contacts and cooperation between Member States and sub-regional organizations;
- the collection and dissemination of information to Member States and sub-regional organizations;
- aid in the financing and organising of regional meetings, workshops, courses and pilot programmes;
- bringing together representatives of sub-regional organizations concerned with environmental education, this consultative group should represent interested intergovernmental and non-governmental organizations.

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Recommendation 5 : Sub-regional cooperation

Recommendation:

Taking into account the similarities in the educational systems within sub-regional groups of states in the European region, as well as similarities in linguistic and cultural features, the Meeting decided to recommend that Unesco should encourage and promote sub-regional cooperation in environmental education, taking special care to involve existing bodies. Areas of environmental education suitable for sub-regional activities could be the following:

- exchange and dissemination of information;
- planning of programmes for various levels of the educational system;
- development of instructional materials;
- training of teachers for the various levels of environmental education;

It was felt that at this stage it would not be possible to establish new organizations or institutions, and that therefore, emphasis should be placed on cooperation between existing governmental and non-governmental organizations and institutions, as well as increased cooperation at an all European level in the field of environmental education.

National Implementation

Recommendation 6 : Coordination at the national level

There is a need for greater coordination within nations and among the various governmental and non-governmental bodies working in, or associated with, environmental education.

Recommendation:

1. That Governments use existing machinery and where necessary set up new machinery to coordinate the work of various agencies and ministries concerned with environmental education in their countries, and ensure continuity of representation at international meetings;

2. that national bodies or committees be set up to deal with all aspects of environmental education, and that these be linked to public and private agencies and news groups involved in the educational process, with a view to establishing inter-institutional and inter-sectoral coordination. Governmental education and environmental protection agencies, mass media practitioners, environmental volunteer adult and youth movements and practising teachers should be represented within these bodies;

3. that existing legislation on environmental education should be implemented, and where necessary, new legislation should be passed to help implement environmental education programmes at the national and local levels. In those countries where legislation is not the basis for curriculum change, full use should be made of advisory or other services to gain the same effect;

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4. that coordination within nations would be greatly improved if "Connect" and other Unesco publications on environmental education were translated into the mother tongue of each country, and widely distributed. Unesco National Commissions should be made responsible for this task.

Recommendation 7 : Support for environmental education

There is a need to reinforce educational and community support and direction for formal and nonformal environmental education programmes at the national and local levels.

Recommendation:

1. That policies and guidelines for environmental education be promoted and established at all government levels particularly at local levels by special committees;

2. that collaboration be improved among teachers and others concerning the development of environmental education methodologies and programmes for in-school and out-of-school, urban and rural institutions;

3. that in order to encourage a greater involvement of secondary school pupils in the community and to assist teachers in organizing field work, local authorities and/or organizations compile a list of local branches of community groups and environmental youth organizations which could help in these tasks; that ministries of education sanction such organizations so that they might participate in school programmes; that teachers encourage pupils to join in these activities on weekends and outside of school hours; and that in some cases, special school environmental clubs and working groups be formed for this purpose;

   the materials and facilities of school buidlings should be made available for these activities in out-of-school hours. Pupils should be assisted but not directed by teachers and others in these out-of-school pursuits. The cooperation of industry and agriculture is necessary to give a real life context to these aspects of environmental education;

4. that for the purpose of environmental education, there be more effective use of existing adult education organizations including those for retired citizens, and that national institutions be made responsible for the coordination of adult environmental education with environmental and development organizations. In the field of adult education the development of relations with international organizations especially by the exchange of experiences and equipment, has been neglected and should be increased;

5. that projects on youth leadership training be implemented and consideration given to the inclusion of such courses in secondary level education.

Preparations for the Intergovernmental Conference

Recommendation 8 : Recommendation for Unesco consideration

Emphasising the importance of early dissemination of information available relating to the objectives and framework of the Intergovernmental Conference to be held in the USSR on 17/26 October 1977, and in view of the

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short time remaining for these preparations, the Meeting agreed to submit the following recommendation for consideration by Unesco:

Recommendation:

1. In order to enable effective national preparations for the Intergovernmental Conference, it was felt that information should be transmitted at the earliest possible opportunity to Member States describing the general objectives and framework of the Intergovernmental Conference, defining the level, categories and number of participants of the Conference, and outlining the types of national background documents which will be required for the Conference;

2. in order to strengthen preparations for, and effective follow-up to the Intergovernmental Conference, the preparatory committee for the Conference should include senior education officials;

3. in order to further strengthen preparations for the Intergovernmental Conference, it was felt that visits by Unesco representatives to as many countries as possible would be useful, for the purpose of discussing with senior officials of appropriate ministries the proposals, objectives, framework and documentation for the Conference;

4. in order to further strengthen the Intergovernmental Conference it was felt that Unesco should be asked to consider the possibility of inviting sub-regional international organizations concerned with environmental education in view of their special role in implementing the recommendations of the Conference;

5. in order to enable serious consideration by governments, the Meeting recommended that the major working documents be transmitted to Member States as soon as possible, preferably not later than 1 June 1977, so that Unesco may, if necessary, revise drafts in good time before the Intergovernmental Conference;

6. in considering the probable framework of the Intergovernmental Conference, the meeting agreed to suggest that the following possible inputs to the Conference should be considered by Unesco and the preparatory committee:

   a) a declaration of principles for environmental education (based on the Belgrade Charter);

   b) an international programme of action, based on the needs and priorities of Member States (as have emerged, inter alia, from the regional preparatory meetings);

   c) recommendations for national actions;

7. The meeting agreed to request Unesco to examine and analyse the reports submitted to, and the conclusions and recommendations from, the various meetings and regional seminars, with a view to identifying central issues of relevance for the Intergovernmental Conference, and to speeding up the preparation of the working documents;

8. the Meeting expressed the wish, that Member States be kept informed at regular intervals of the progress made in the preparations for the Intergovernmental Conference.

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Recommendation 9 : Recommendation for national consideration

Recommendation:

The Meeting decided to recommend that national preparations for the Intergovernmental Conference on Environmental Education, to be held in Tbilisi, USSR, on 17/26 October 1977, should take place in broad-based national committees, which should be appointed as soon as possible by competent governmental authorities.

It was recommended that such national committees should organize broad-based national seminars for experts representing various levels and various forms of education, formal as well as nonformal.

II. SPECIFIC RECOMMENDATIONS FOR THE DEVELOPMENT OF ENVIRONMENTAL EDUCATION

Formal and nonformal education

Teachers cannot avoid a concern with attitudes, which are of fundamental importance.

Recommendation 10 : Fostering of attitudes

Recommendation:

1. The need for pupils to acquire an understanding of the role and responsibility of the individual must be acknowledge as a first priority;

2. teaching methods should stress the importance of open-mindedness, respect for evidence, respect for the opinions of others, and a critical and questioning approach;

3. consideration should be given to the use of particular techniques, such as free discussion and role-play based on evidence and the consideration of various viewpoints;

4. consideration should be given to the formulation of codes of behaviour for different activities and environments;

5. teachers should recognise that attitudes towards the environment must develop according to cultural as well as scientific factors.

Recommendation 11 : Instruction materials

Recommendation:

Criteria for the development of environmental education materials.

A. Criteria for the development of materials:

1. Environmental education materials should be multi-media in nature including printed materials; audio-visual aids; teachers' manuals; self-learning student material; and, posters/charts;

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2. resource materials should stress various teaching and learning processes and techniques;

3. the materials should be as cheap as possible;

4. the materials should be developed by multi-disciplinary teams;

5. the materials should be structured in such a manner that they can easily be changed or modified by teachers and students;

6. provision must be made to modernise or update the materials every three to five years;

7. various supporting or background teachers' manuals should be prepared covering general and specific aspects of environmental education.

Criteria for the development of international environmental education materials.

B. Criteria for the intellectual structure and substantive content of the materials:

1. The fundament ecological principle which must underlie the development of all material is, that the earth is a whole and should be considered from the perspective of humanity and its responsibility to maintain a universal balance; both humanity's impact on the environment and the environment's impact on humanity, must be considered;

2. important related sub-principles must also be kept in mind:

   a) natural ecological concepts (eco-systems, etc.,);

   b) environmental pollution and its social causes and costs;

   c) natural history and its use;

   d) conservation and nature protection;

   e) cultural diversity, history and their impact on the natural and man-made eco-systems.

Social, cultural, psychological and ethnological factors relevant for environmental education

Recommendation 12:

The attitude of man towards his environment, be it natural or man-made, is determined by several underlying factors and processes. One might think of social structure, norms and values - including traditions - and psychological phenomena. As a result these factors and processes will influence the intended results of environmental education activities — they may hamper or strengthen them.

With regard to the successful planning of nonformal environmental education, it is considered necessary to know how and to what extent such factors are relevant.

Recommendation:

Being aware of the determining influence of social, cultural and psychological factors, which may hamper or strengthen the intended

results of environmental education activities, and recognising the need for an evaluation of these factors, it is recommended that responsible authorities and private environmental education organizations promote, establish and develop relevant social studies and research programmes, thus involving the social and human sciences in environmental education, and utilise the results of these studies with regard to the formulation of specific goals and the selection of appropriate means for environmental education programmes.

Target groups for this recommendation are, above all, social research centres, and social scientists within Unesco and its Member States.

Recommendation 13:

The social and human sciences, in particular cultural history and ethnology, can make an important contribution to the development of environmental education activities. Knowledge and understanding of past societies, the way of life of past generations and their attitude towards the natural environment, is of major importance in order to understand present environmental problems and develop an attitude towards the natural environment characterised by care and responsibility. In the practical implementation of this, museums of history and culture can play an important role in cooperation with museums of natural history and sciences, zoos, etc. Further research in this interdisciplinary field is also needed.

Recommendation:

Noting the important contribution of the social and human sciences, in particular, cultural history and ethnology in explaining the past and present relationship between man the natural environment, responsible authorities and private environmental education organizations are urged to develop environmental education programmes and facilities which confront youth and adults with culture patterns and ways of living of past generations and their relationship with the natural environment; and, environmental problems of today.

Recommendation 14 : Environmental education through active participation

The "way of life" developed in the agrarian societies functioned at the same time as a chain of "learning situations" which enabled the individual person to operate and to keep the equilibrium between men and environment. Today, some of the crucial learning situations are destroyed. They or their functional equivalents have to be organized again artificially and, in such a way, that they produce effective results.

A very effective way of learning is learning by doing. Therefore, we have to provide possibilities for "doing" not so much by presenting more and better "school situations" but by looking for and systematically opening up normal life situations as learning situations. Such situations may be:

a) non-passive information processes

- archeological centres;
- TV nature guard, viewer active TV which stimulates active responses;

b) physical activities expecially for young people

- youth working groups;

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- voluntary nature management, e.g. green patrols for nature conservation;
- emergency groups;

c) participation in planning

taking part in physical planning can be considered as an effective means for promoting environmental awareness, as well as a contribution to the quality of decision making. Participation here offers to the individual a useful and interesting situation.

Recommendation:

1. That the authorities concerned should utilise the communication methods of "activating TV" involving:
   - instruction of expecially young viewers in environmental action, e.g. registration of water pollution;
   - follow-up of TV programmes by written and other instructional materials;
   - collecting the results of viewer participation in such programmes;
2. children and young people should be given broader encouragement to participate in the implementation of environmental conservation measures through school and out-of-school organizations such as school forestry schemes, student agricultural brigades, student nature conservation teams, etc;
3. local authorities should maintain contacts with local branches of environmental organizations and support them in local projects such as collecting field data for planners, and further active participation in planning and environmental protection;
4. national governments, regional and local authorities are urged to offer to the people the possibility of playing an active role in decision making processes affecting the environment, especially the physical planning; in this connection it is recommended that:
   - acts on physical planning contain rules on public involvement;
   - the planning authorities inform the public in an adequate way;
   - meetings are arranged for citizens and public authorities where alternative possibilities for physical plans can be discussed.

Pre-school, primary and secondary levels of the formal education system

Recommendation 15 : Environmental education should be based on firsthand experience

There is a need for environmental education to be based on firsthand experience.

Recommendation:

1. A main approach should be through "learning by doing", equal importance should be attached to the affective and cognitive approaches;

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2. out-of-school experience should be regarded as an essential part of learning programmes;

3. pupils should be included in the consideration of real issues and problems and made aware of the factors that influence planning decisions;

4. the facilities and resources of the local neighbourhood and community should be explored and used to full advantage.

Recommendation 16 : All subject disciplines should contribute to environmental education

Recommendation:

1. At the primary level fully integrated approaches should be encouraged;

2. at the secondary level there should be opportunity for multi-disciplinary or interdisciplinary approaches. The full consideration of environmental problems requires this. Traditional forms of school organization should therefore be modified as necessary;

3. the separate disciplines should identify their special contribution to environmental education in terms of knowledge and skills and give due priority to the environmental aspects; teachers of the separate disciplines should accept the need for mutual consultation and cooperation.

Recommendation 17 : New teaching methods in environmental education

Recommendation:

1. As far as possible theoretical teaching should be related to real-life situations;

2. schools should be encouraged to work out programmes related to local circumstances, and to adapt to their own needs, programmes and materials developed elsewhere;

3. opportunity should be taken to relate local issues to wider ones and to give pupils helpful insights into other life-styles and environments, past and present.

Recommendation 18 : Training of personnel for environmental education

Recommendation:

1. In training of pre-school and lower primary teachers special attention should be paid to the social and affective aspects of environmental education for young children; training of teachers for the pre-school level should enable teachers to take children outdoors to get a firsthand experience of their natural and man-made environment;

2. in the training of teachers for the upper primary school, gradually increasing emphasis should be paid to the cognitive aspects of environmental education in addition to the affective and social aspects; keeping in mind that in many countries of North America and Europe there is a noticeable trend towards integration of the natural

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and social sciences at the upper secondary level, the meeting recommends that this trend should be supported through training of teachers;

3. teachers in vocational schools should have a good knowledge of environmental education in relation to their profession in order to be effective in providing their pupils with education, which shows how their special profession might affect the environment;

4. in-service training of environmental education teachers in primary and secondary schools (as well as educators in the nonformal sector) could be established by coordinating the work of educational authorities, environmental authorities and the educational sectors of the mass media (especially TV and radio);

5. refresher courses for environmental education teachers of all levels (from primary to secondary) should be organised on a regional basis (Europe and North America) under the auspices of Unesco; it is also recommended that Unesco provides for the exchange of participants between various Member States in refresher courses (teacher training), which are organised on a national level and deal with some aspects of environmental education;

6. seminars on specific topics related to environmental education should be organised on a regional level, seminars should be organised for:

   a) teachers of teacher training colleges and graduate schools of education;

   b) curriculum developers;

   c) policy makers for environmental education;

   d) environmental education experts of mass media.

Recommendation 19 : Effective teaching

Apart from the specific training needs of teachers referred to in the previous recommendations, teachers need the following experiences in order to teach effectively:

1. involvement in interdisciplinary investigations during and after training (training being available at field centres);

2. professional discussions with colleagues on the content and methods of the curriculum;

3. contact with, and assistance from, research establishments.

Recommendation:

1. That field centres should be expanded or set up where they do not exist to stimulate interdisciplinary investigations and approaches;

2. that resources should be made available for the effective running of teachers' centres linked to institutes of higher education;

3. that a list of ecological research establishments be formulated with an indication of those prepared to assist individual teachers with personal research projects.

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Post-secondary vocational education and professional training

Recommendation 20 : Post-secondary vocational education and professional training

Since people with a post-secondary professional training obtain important opportunities in the social, commercial, technical and industrial professions where they can decisively influence daily activities and practices, it is important that they obtain a fairly broad introduction to environmental problems, in particular with respect to the rational use of energy resources and raw materials, the natural and cultural heritage, the prevention of accidents and abatement of pollution, noise, etc.

Recommendation:

1. At the institutional level: establishment of basic introductory courses is recommended for:

   - environmental programmes for part-time schooling of youth in industrial and commercial professions;

   - environmental education in technical colleges, agricultural colleges, business schools, nautical schools, social welfare training institutes, etc;

2. at the national level: stimulation and, if necessary, legislation for the inclusion of such courses in the curriculum is recommended;

3. at the international level: the exchange of practical experiences, programmes, curricula and information concerning institutional arrangements, should be encouraged.

University and post-university levels of the formal education system

Recommendation 21 : Role of the university

The university, while remaining faithful to its role as a teaching and research institution has a duty to perform for the community to which it belongs.

The university is one of the most favourable environments for adaptive research into the exigencies of society and its evolution. It has to adapt itself to these new conditions. A critical and constructive attitude towards reality, particularly regarding the human environment, is one of the most remunerative conditions because this type of institution is able to evaluate its proper identity and role within the community.

Recommendation:

It is recommended that universities establish environmental education for all students in order to instill an awareness of the realities of the human environment, increase their consciousness of their role in society and their responsibilities as members of a community.

It is also recommended to develop, under Unesco's coordination, research on environmental perception in different countries of the region.

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Interdisciplinarity

Recommendation 22:

The nature of environmental problems requires an interdisciplinary approach rather than a multidisciplinary one. The interdisciplinary approach is now recognised as the method for a correct integrated analysis of the systemic environment.

At the university level interdisciplinarity in the environmental field will only rarely be possible in the education of specialists who shall solve specific environmental problems. An interdisciplinary approach is more promising in environmental courses which aim at supplementing knowledge. True interdisciplinarity between the social and natural sciences will only rarely be possible in the university training of specialists.

Recommendation:

Consequently, it is recommended that an interdisciplinary solution to environmental problems is secured by the establishment of supplementary courses in the natural and social science curricula respectively, combined with coordinated group work oriented towards interdisciplinary solutions to specific environmental problems. This approach will enable specialists in different disciplines to understand each other and to cooperate.

Recommendation 23:

In the universities and research institutions of the region, there exist difficulties regarding the acceptance and implementation of an interdisciplinary approach to research and teaching. Interdisciplinary methodology requires the availability of specialised disciplines which, in this context, assume an essential role. Compared to the traditional approach to research and academic teaching, the interdisciplinary approach is a dynamic methodology. A working group formed of specialists in different disciplines who are interested in specific environmental problems will initially be pluridisciplinary. A close working relationship will transform such a group into an interdisciplinary one. The difficulties of interdisciplinary methodology depend on the disciplinary training of researchers and teachers. This applies to all levels of teaching. The proper attitude towards interdisciplinary research and teaching, extremely important in environmental education, has to be promoted at national, regional and international levels.

Recommendation:

1. That interdisciplinary methodology be developed in both research and teaching, with a view to overcoming present difficulties;

2. that governments promote research in interdisciplinary methods of environmental education in each country, taking into account the various national requirements, both technical and administrative;

3. that Unesco assists and coordinates such research by:

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a) an appropriate system of information exchange;

b) the organization of seminars;

c) providing opportunities for visits by groups specialising in these methods, between the various countries.

Recommendation 24 : Curriculum at the university level for the environment

A very varied range of occupations requires the training of personnel with environmental knowledge. Certain occupations demand a very narrow training (e.g. combatting water pollution) whilst others call for training of a broader kind (e.g. regional planners).

Every environmental specialist must have an adequate knowledge of many environmental questions so that he can have an overall understanding of the problems and, where necessary, be in a position to change to another branch. Conversely there is a danger that knowledge which is only general might be superficial and ineffective. It is further desirable that environmental specialists should have a good knowledge of a particular discipline, provided that this is not detrimental to their interdisciplinary training.

Recommendation:

Every environmental specialist must be trained with a view to the rational use of natural resources and the surveillance of man's influence on his environment. The manner of training must achieve a harmonious combination of general instruction with a special subject. The balance is determined having regard to local conditions (ecological, social and economic) and their foreseeable development.

Recommendation 25 : Environmental education for all students

Recommendation:

That all students, who in their later professional activities will be dealing with environmental matters, at the university and post-secondary levels, get a compulsory training in environmental knowledge and nature conservation based on their earlier training and experience. This is particularly necessary for those who are being trained for occupations which tend to modify water or land use, for instance engineers and technicians.

Recommendation 26 : Environmental education for all university students who specialise in environmental problems

In order to increase the integration of disciplines related to environmental analysis, and to give a correct interdisciplinary orientation to students concerned with environmental problems (pollution, conservation, management, rural and urban planning, public health, etc.,) it is important to promote the establishment, at the university level, of: (i) executive or coordinating departments to deal with questions of the environment; and (ii) field study centres for students.

Such institutions are common in several countries of the region and at the international level. In order to increase the quality of environmental education teaching, there is a need to support research on environmental

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education which would be carried out in interfaculty centres at the universities (including science, education, the humanities, psychology, economics, etc.).

Recommendation:

In order to promote better understanding and management of the environment, it is important to improve the quality and quantity of academic research and training in this field; the creation of executive or coordinating departments to deal with questions of the environment, and field study centres for academic work in all countries of the region, and the establishment of interdisciplinary centres (at university level) for research as a support to environmental education, is strongly recommended; it is also recommended that an inventory of all such field centres be drawn up with Unesco support, and that there should also be an exchange of experiences in this field.

Recommendation 27 : Recurrent post-graduate and post-experience training

Because of the continuous and changing nature of social, scientific and technological development, there is a need for a life-long refreshing of ideas and knowledge about the environment and the impact of human activities on it. The methods to be used for such training should be a combination of both institutional and individual learning, for university graduates as well as those people with long professional experience but without an academic or equivalent training.

Recommendation:

1. At the institutional level

   determine the relevent priority issues that arise from daily working situations and establish appropriate refresher courses aimed at solving or handling such problems;

2. at the national level

   establish a system of institutional arrangements to provide relevant refresher training courses devoted to the different problem areas such as decision making and management with respect to the diminution of pollution, abatement of noise, rational use of energy resources and raw materials, the conservation of the natural and cultural heritage;

3. at the international level

   encourage the exchange of practical experiences, programmes, curricula and institutional arrangements.

Nonformal education for the general public

Recommendation 28 : Ways and means in nonformal environmental education

In order to accomplish the objectives of environmental education, existing means of nonformal environmental education need to be continuously evaluated and new means developed. Countries of the European region should continue to refine and develop the concept of nonformal environmental education within their existing legal, organizational and financial set-up, but if necessary, also add new legislation to provide the means for

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nonformal environmental education programmes. Particular attention should be given to the provision of funds for nonformal environmental education programmes.

Recommendation:

1. That nonformal environmental education be always included in general budgets for the funding of environmental education programmes;

2. that funds be made available to national organizations wishing to do research in order to improve existing nonformal environmental education;

3. that youth funds should always have a special section reserved for environmental activities besides the sections for sports, political groups, etc;

4. that funds be made available by UN agencies to start nonformal environmental education programmes in nations where it is especially needed, on the understanding that these nations will follow up with their own means.

Recommendation 29 : Improvement of existing facilities

The ways of utilising existing nonformal environmental education means like personnel, facilities and equipment, instructional materials, existing organizations, etc., should be improved. Simple, practical and inexpensive ways and means for nonformal environmental education should be developed for environmental problems in different countries.

Recommendation:

1. That governmental organizations concerned with the protection of the environment and the proper use of natural resources assist and support public and private organizations working in nonformal environmental education to produce programmes;

2. that collection, translation and distribution of the relevant nonformal environmental education documents be carried out by the institutions which are a part of Unesco's environmental education network;

3. that information programmes directed towards the various categories of the population, using both the mass media (TV, the daily press, etc.,) and the publication of popular science books written by experts, be identified;

4. that government and local authorities provide resources for out-of-school youth activity by making available:

   - meeting rooms and school libraries, laboratories and other school owned facilities;
   - field centres and other facilities for youth camps during holidays;
   - preserved areas of special educational value, both in the field of humanities and sciences, and that the identification and management of such areas be included in landscape planning and the establishment of nature parks;

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5. that in order to encourage greater involvement of young people going to school in preserving environmental quality:

   - local authorities and/or organizations compile a list of local branches of environmental organizations - especially youth organizations - which could help in this task;
   - that ministries of education and of environmental protection, sanction such organizations so that they might participate in school programmes;
   - in-service training of teachers includes information on relevant nonformal environmental education methods and organizations.

Recommendation 30 : Provision of further facilities

Being aware that the direct experience with environmental problems is very effective in education, the meeting proposes the following:

Recommendation:

1. That authorities be endorsed to establish activity centres without delay and give them a relevant place in the programme for environmental education in each country; where such centres already exist, experience of their use should be spread through the Unesco environmental education network;

2. that authorities be endorsed to arrange environmental education courses at open universities (or similar institutions) and give support to local courses and study groups, which make environmental knowledge available to everybody;

3. that a variety of short courses be set up in order to give leaders in nonformal education an interdisciplinary view of the environment, and that such courses, to take place during holidays, should be organised and supported;

4. that visitors' centres be set up in order to explain to the public at large ecological interdependence in a natural, rural or urban area, and as a consequence, explain the principles of nature conservation and environmental protection measures;

5. that international environmental education youth camps be arranged during school holidays together with young people's symposia, seminars, etc., with the purpose of nonformal environmental education, existing organizations carrying out such activities should be supported.

Recommendation 31 : Establishment of green spaces

Growing urbanisation and its attendant problems have changed people's thinking with regard to the natural environment. The rapid appearance of one new urban area after another has created a need to extend the function of green spaces in towns, and make more use of them for educational purposes. Thus, the meeting agreed with the Belgrade Recommendation on easily reached sites for both formal and nonformal environmental education as well as with the recommendation calling for research into non-school learning environments.

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Recommendation:

Local authorities should be strongly urged to develop (along ecological lines) green spaces with wild flora and fauna in urban areas. These spaces should include school gardens and botanical gardens, in order to make the fullest possible use of them for environmental education purposes.

Recommendation 32 : Training of mass media personnel

With a view to the importance of mass media in nonformal environmental education, and the creation of public awareness about the environment, the meeting proposes:

Recommendation:

That journalists and other people involved in communication through the press, radio and TV, receive education on environmental problems and all forms of environmental education carried out by the mass media.

ANNEX NO.1

REGIONAL MEETING ON ENVIRONMENTAL EDUCATION FOR EUROPE
(Helsinki, Finland, 27-31 January 1977)

I. Meeting Agenda

1. Opening of the meeting

2. Election of Chairman, Vice-Chairmen and Rapporteur

3. Presentation of the International Programme in Environmental Education

4. Presentation of the state of the environment in Europe

5. Presentation of the state of environmental education in Europe

6. Review of environmental education within the formal and nonformal education systems in Europe

7. Review of environmental education resources

8. Strategies on environmental education for Europe

9. Approval of recommendations

10. Approval of report

11. Closure of the meeting

II. Detailed Timetable

TIME	Thursday, 27 Jan.	Friday, 28 Jan.	Saturday, 29 Jan.	Sunday, 30 Jan.	Monday, 31 Jan.
9 a.m. to 12 noon	Opening of the meeting Election of officers Presentation on point 3	Working Groups on point 6 Groups 1, 2 and 3	Working Groups on point 7 Groups 1, 2 and 3	Environmental excursion	Plenary on point 9
2 p.m. to 5 p.m.	Plenary on points 4 and 5	Working Groups on point 7 Groups 1, 2 and 3	Working Groups on point 7 Groups 1, 2 and 3	Working Groups on point 8 Groups 4 and 5	Plenary on point 10 Closure of the
5 p.m. to 6 p.m.	Working Groups on point 6 Groups 1, 2 and 3				
Evening	Cocktail	Drafting committee	Drafting committee	Drafting committee	

III. Notes for the Agenda

A. General Objectives of the Meeting

The Regional Meeting on Environmental Education for Europe falls within Category VI of the classification of meetings convened by Unesco. The participants at this meeting are experts from the European Member States of Unesco, invited to attend in their personal capacity, as well as representatives from the United Nations organizations and intergovernmental organizations, and observers from selected intergovernmental and non-governmental organizations, and European Member States.

B. Specific Objectives of the Meeting

Participants are reminded that the specific objectives of the Regional Meeting on Environmental Education for Europe are the following:

- To advise Unesco on the implementation of its environmental education programme in the European region, by identifying and discussing environmental education activities, formulating strategies of further action in environmental education at the regional level, and reviewing the guidelines and recommendations of the Belgrade Workshop on Environmental Education (1975).

C. Working Documents

All participants should have received, prior to the meeting, the following documents:

- The Belgrade Charter;
- The Recommendations of the Belgrade Workshop; and,
- The Report on Environmental Education Needs and Priorities.

All of these documents should be referred to in the treatment of the various agenda points.

D. Reference Documents

Each participant has been requested to prepare a brief paper on his/her environmental education activities (in the case of experts attending in their private capacity); or on the environmental education activities of his/her organization or Member State (in the case of representatives or observers). These documents will be distributed to all those attending the meeting, and shall be considered as documents of reference.

E. Annotations for Agenda Points 6, 7 and 8

1. Agenda Point 6 : Review of Environmental Education within the Formal and Nonformal Education Systems:

   The role of environmental education in the solution and prevention of environmental problems

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and within the framework of a harmonious social, cultural, economic and educational development.

Thursday, 27 Jan. 5-6 p.m.
Friday, 28 Jan. 9-12 noon
} Groups 1, 2 and 3

a) Themes for the discussion

This agenda point will be divided into three parallel working groups (Working Groups 1, 2 and 3). Participants in all three of these groups should undertake a theoretical reflection of the goals, objectives, guiding principles and major areas of concern for environmental education in the European region. It is intended that the results of such discussions serve as a frame of reference for the more specific topics to be treated under agenda points 7 and 8.

b) Specific results expected

As Working Groups 1, 2 and 3 will examine the same themes, it is expected that each group will formulate a statement on the goals and objectives of environmental education for Europe, as well as on the role of environmental education in the solution of the various problems referred to in the sub-title of this agenda point.

2. Agenda Point 7 : Review of Environmental Education Resources:

The identification of problems, orientations, alternatives and recommendations related to the institutional human and material resources necessary for the development of environmental education in Europe.

Friday, 28 Jan. 2-5 p.m.
Saturday, 29 Jan. all day
} Groups 1, 2 and 3

a) Themes for the discussion

This agenda point will be divided into three different working groups (Working Groups 1, 2 and 3) composed of the same persons as the groups under point 6, according to the educational levels within the formal educational system, and the entire nonformal educational system. It is intended that this point of the agenda stimulate concrete and technical discussions on the specific elements which are needed to be developed in order to satisfy the goals and objectives of environmental education, as treated in the previous agenda point. Specifically, the working groups under point 7 will be divided as follows:

Working Group 1 : Environmental education at the pre-school, primary and secondary levels of the formal educational system;

Working Group 2 : Environmental education at the university and post-university levels of the formal educational system;

Working Group 3 : Nonformal environmental education for youth and adults.

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Working Groups 1 and 2, in addition to examining the situation as related to their specific educational levels, could also cover the following specific problem areas:

- curriculum development for environmental education;
- training of personnel for environmental education;
- development of instructional materials for environmental education;
- research for environmental education;
- educational reform for environmental education.

Working Group 3, in addition to covering the five problem areas cited above, for Groups 1 and 2, could also examine the following:

- identification of existing problems;
- identification of possible solutions to these problems; and,
- formulation of recommendations and strategies to be followed by Unesco in the further implementation of its environmental education programme for Europe.

3. Agenda Point 8 : Strategies on Environmental Education for Europe

Sunday, 30 Jan. 2-5 p.m. - Groups 4 and 5

a) Themes for the discussion

This agenda point will be divided into two different working groups (Working Groups 4 and 5), to deal with the strategies of the future development of environmental education, either at the national or at the regional level. These two working groups will be divided as follows:

Working Group 4 : National implementation of environmental education;

Working Group 5 : Regional cooperation in environmental education.

Working Group 4 could examine the following specific problem areas:

- national coordination of environmental education activities and research;
- development of national networks of communication in environmental education;
- national preparations for the Intergovernmental Conference on Environmental Education;
- funding sources for environmental education;
- utilisation of international resources for environmental education;
- bilateral cooperation in environmental education.

Working Group 5 could examine the following specific areas of concern:

.../

- regional coordination of environmental education activities and research;
- development of regional networks of communication in environmental education;
- regional preparations for the Intergovernmental Conference on Environmental Education;
- regional exchange of information and personnel in environmental education;
- regional cooperation in environmental education.

b) Specific results expected

Both working groups should aim for the following results:

- identification of existing problems;
- identification of possible solutions; and,
- formulation of recommendations.

ANNEX NO. 2

THE BELGRADE CHARTER

A Global Framework for Environmental Education

A. Environmental Situation

Our generation has witnessed unprecedented economic growth and technological progress which, while bringing benefits to many people, have also caused severe social and environmental consequences. Inequality between the poor and the rich among nations and within nations is growing and there is evidence of increasing deterioration of the physical environment in some forms on a world-wide scale. This condition, although primarily caused by a relatively small number of nations, affects all of humanity.

The recent United Nations Declaration for the New International Economic Order calls for a new concept of development - one which takes into account the satisfaction of the needs and wants of every citizen of the earth, of the pluralism of societies and of the balance and harmony between humanity and the environment. What is being called for is the eradication of the basic causes of poverty, hunger, illiteracy, pollution, exploitation and domination. The previous pattern of ealing with these crucial problems on a fragmentary basis is no longer workable.

It is absolutely vital that the world's citizens insist upon measures that will support the kind of economic growth which will not have harmful repercussions on people; that will not in any way diminish their environment and their living conditions. It is necessary to find ways to ensure that no nation should grow or develop at the expense of another nation and that the consumption of no individual should be increased at the expense of other individuals. The resources of the world should be developed in ways which will benefit all humanity and provide the potential for raising the quality of life for everyone.

We need nothing short of a new global ethic - an ethic which espouses attitudes and behaviour for individuals and societies which are consonant with humanity's place within the biosphere; which recognizes and sensitively responds to the complex and ever-changing relationships between humanity and nature and between people. Significant changes must occur in all of the world's nations to assure the kind of rational development which will be guided by this new global ideal - changes which will be directed towards an equitable distribution of the world's resources and more fairly satisfy the needs of all peoples. This new kind of development will also require the maximum reduction in harmful effects on the environment, the utilisation of waste materials for productive purposes, and the design of technologies which will enable such objectives to be achieved. Above all, it will demand the assurance of perpetual peace through coexistence and cooperation among nations with different social systems. Substantial resources for reallocation to meet human needs can be gained through restricting military budgets and reducing competition in the manufacture of arms. Disarmament should be the ultimate goal.

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These new approaches to the development and improvement of the environment call for a reordering of national and regional priorities. Those policies aimed at maximizing economic output without regard to its consequences on society and on the resources available for improving the quality of life must be questioned. Before this changing of priorities can be achieved, millions of individuals will themselves need to adjust their own priorities and assume a personal and individualized global ethic - and reflect in all of their behaviour a commitment to the improvement of the quality of the environment and of life for the world's people.

The reform of educational processes and systems is central to the buidling of this new development ethic and world economic order. Governments and policy-makers can order changes, and new development approaches can begin to improve the world's condition - but all of these are no more than short-term solutions, unless the youth of the world receives a new kind of education. This will require new and productive relationships between students and teachers, between schools and communities, and between the education system and society at large.

Recommendation 96 of the Stockholm Conference on the Human Environment called for the development of environmental education as one of the most critical elements of an all-out attack on the world's environmental crisis. This new environmental education must be broad based and strongly related to the basic principles outlined in the United Nations Declaration on the New International Economic Order.

It is within this context that the foundations must be laid for a world-wide environmental education programme that will make it possible to develop new knowledge and skills, values and attitudes, in a drive towards a better quality of environment and, indeed, towards a higher quality of life for present and future generations living within that environment.

B. Environmental Goal

The goal of environmental action is:

To improve all ecological relationships, including the relationship of humanity with nature and people with each other.

There are, thus, two preliminary objectives:

1. For each nation, according to its culture, to clarify for itself the meaning of such basic concepts as "quality of life" and "human happiness" in the context of the total environment, with an extension of the clarification and appreciation to other cultures, beyond one's own national boundaries.

2. To identify which actions will ensure the preservation and improvement of humanity's potentials and develop social and individual well-being in harmony with the biophysical and man-made environment.

C. Environmental Education Goa

The goal of environmental education is:

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To develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively towards solutions of current problems and the prevention of new ones.

D. Environmental Education Objectives

The objectives of environmental education are:

1. Awareness: to help individuals and social groups acquire an awareness of and sensitivity to the total environment and its allied problems.

2. Knowledge: to help individuals and social groups acquire basic understanding of the total environment, its associated problems and humanity's critically responsible presence and role in it.

3. Attitude: to help individuals and social groups acquire social values, strong feelings of concern for the environment and the motivation for actively participating in its protection and improvement.

4. Skills: to help individuals and social groups acquire the skills for solving environmental problems.

5. Evaluation ability: to help individuals and social groups evaluate environmental measures and education programmes in terms of ecological, political, economic, social, aesthetic and educational factors.

6. Participation: to help individuals and social groups develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action to solve those problems.

E. Audiences

The principal audience of environmental education is the general public. Within this global frame, the major categories are:

1. The formal education sector: including pre-school, primary, secondary and higher education students as well as teachers and environmental professionals in training and retraining.

2. The nonformal education sector: including youth and adults, individually or collectively, from all segments of the population, such as the family, workers, managers and decision-makers, in environmental as well as non-environmental fields.

F. Guiding Principles of Environmental Education Programmes

The guiding principles of environmental education are:

1. Environmental education should consider the environment in its totality - natural and man-made, ecological, political, economic, technological, social, legislative, cultural and aesthetic.

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2. Environmental education should be a continuous life-long process, both in-school and out-of-school.

3. Environmental education should be interdisciplinary in its approach.

4. Environmental education should emphasise active participation in preventing and solving environmental problems.

5. Environmental education should examine major environmental issues from a world point of view, while paying due regard to regional differences.

6. Environmental education should focus on current and future environmental situations.

7. Environmental education should examine all development and growth from an environmental perspective.

8. Environmental education should promote the value and necessity of local, national and international cooperation in the solution of environmental problems.

ANNEX NO.3

LIST OF PARTICIPANTS LISTE DES PARTICIPANTS СПИСОК УЧАСТНИКОВ

Name - Nom - Фамилия	Address - Adresse - Адрес
I. EXPERTS - ЭКСПЕРТЫ	
Professor Sibery ALFEROV	Vice-President All Russian Society for Nature Conservation Kujbischev 3 Moscow K-12, U.S.S.R.
Mr. Reynir BJARNASON	Ministry of Education Reykjauik, Iceland
Mr. Poul BREUM	Falkargarde 8544 Morke, Denmark
Ms. Danuta CICHY	Institute of School Curricula ul. I Armii 25 Warsaw, Poland
Professor Ion Florea DUMITRU	University of Auchar Faculty of Biology 91-93 Spl. Independen 7000 Bucharest VI, Roumania
Mr. Costas ECONOMOU	Ministry of Education Nicosia, Cyprus
Mr. Lars Emmelin	Environmental Studies Programme University of Lund Helgonavägen 5 223 62 Lund, Sweden
Mr. Tokan ENGIN	Ministry of Health Division of Environmental Health Ankara, Turkey
Professor René HELLER	Université Paris 7 2, Place Jussieu 75007 Paris, France
Mr. Charles HOPKINS	Boyne River Natural Science School R.R. No. 4 Shelburne, Ontario, Canada
Professor Rudolf HUNDT	Martin Luther University Wittenberg, Sektion Biowissenschaften 402 Halle, German Democratic Republic

Professor Sergey IVTCHENKO	Pedagogical Institute of Kiev 9, rue de Pirogov Kiev 30, Ukranian SSR
Mr. Matti LAHDEOJA	Secretary for Scientific Affairs Ministry of Education Rauhankatu 4 Helsinki 17, Finland
Professor Lothar MANDL	Gymnasium du Theresianiche Akademie Favoritenstrasse 15 A-1040 Wien, Austria
Professor Antonio MORONI	Laboratorio di Ecologia University of Parma Via Universita, 12 Parma, Italy
Mr. Jan PAVLEC	Czechoslovak Television Mlynská Dolina 80000 Bratislava, Czechoslovakia
Professor Tsolo PESHEV	Faculté de biologie Université de Sofia 49 Moskovska str. Sofia, Bulgaria
Professor Ranko RADOVIĆ	Faculty of Architecture University of Belgrade Kneza od Semberije 8/I Belgrade, Yugoslavia
Professor Jean REUTER	Ecole des arts et métiers 19, rue G. Schneider Luxembourg
Professor Viadimir ROMANOV	Institute of Technology of Byleorussia ul (str) Svezdlova 13a Minsk, Byleorussian SSR
Professor Olaf RØNNING	University of Trondheim Botanical Department 7000 Trondheim, Norway
Dr. J.L. SALIBA	Department of Biology University of Malta Msida, Malta
Professor Peter SCHNEIDER	University of Essen FB 9 D4300 Essen, Federal Republic of Germany
Professor William B. STAPP	School of Natural Resources University of Michigan Ann Arbor, Michigan 48104, USA

Ms. Eniko SZALAY-MARZÓ	National Institute of Pedagogy Gorkijfasor 17/21 Budapest 1406, Hungary
Mr. Joaquin TENA-ARTIGAS	Working Group on Education Spanish National Commission for Unesco Alcalá 34 Madrid, Spain
Mr. H. WALS	School and Children's Garden Service Raaltestraat 4 The Hague, Netherlands
Mrs. Kirsti WARTIOVAARA	Secretary for Cultural Affairs Department of International Relations Ministry of Education Rauhankatu 4 Helsinki, Finland
Mr. Roland WIEDERKEHR	World Wildlife Fund CH-8037 Zurich, Switzerland
Mr. G.M. WILLAN	Department of Education and Science 31 Red Lion Street Chesham, Bucks, United Kingdom

II. OBSERVERS AND REPRESENTATIVES - OBSERVATEURS ET REPRESENTANTS
НАБЛЮДАТЕЛИ И ПРЕДСТАВИТЕЛИ

Mr. James ALDRICH	Executive Director Alliance for Environmental Education 1786 Massachusets Ave, N.W. Washington, D.C. 20036, USA
Mr. V. ARTEMIEV	National Commission for Unesco 9 Prospekt Kalinina Moscow G-19, U.S.S.R.
Mr. J.H. BENNINK	University of Amsterdam Dept. of Plant Physiology Amsterdam, Netherlands
Mr. James BRESLIN	Chief, Training Services Branch World Meteorological Organisation Case postale No. 5 Geneva, Switzerland
Mr. Maarten BYLEVELD	World Wildlife Fund 1110 Morges, Switzerland
Mr. Peter DIENEL	D-402 Mettmann Dresdner strasse 14 Federal Republic of Germany

Mr. George EPLER	Council of Europe 67 Strasbourg, France
Mr. Dieter ESCHNER	Ministry of Education Department of Biology and Environmental Science 102 Berlin, Democratic Republic of Germany
Mr. Gunter EULEFELD	Institut für die Paedagogik der Neturwissenschaffen Olshausen Str. D2300 Kiel, Federal Republic of Germany
Mr. Richard FORT	Ministry of Environment Oslo, Norway
Mr. Rolv FOSTERVOLD	Skoledirektøren i Sør-Trondelag Nordre gt. 12 7000 Trondheim, Norway
Mr. George FRANCIS	Man and Environment Studies University of Waterloo Waterloo, Ontario N21 3G1, Canada
Mr. Tony FYSON	Town and Country Planning Association 17 Carlton House Terrace London SW1, England
Mr. R. GAYSER	Commission for European Communities 200, rue de La Loi B-1040 Brussels, Belgium
Mr. Johannes GOUDSWAARD	Jan van Loonslaan 20a Rotterdam 3001, Netherlands
Mr. G.P. HEKSTRA	Ministry of Public Health and Environmental Protection 10 Dokter Reyersstraat Leidschendam, Netherlands
Mr. Mikael HILDÉN	Hameentie 37 C94 SF-00500 Helsinki 50, Sweden
Mr. Isidoro Alonso HINOJAL	Instituto Nacional de Ciencias de la Educación Ciudad Universitaria Madrid 3, Spain
Mr. Alfred HOFFMANN	International Union for Conservation of Nature and Natural Resources 1110 Morges, Switzerland
Mr. Jörg HOFFMANN	Kultusminsteriam, Baden-Württemberg Neues Schloss 7000 Stuttgart 1, Federal Republic of Germany

Ms. Anna von HOFSTEN	National Environment Protection Board Information Section - Fack S-171 20 Solna 1, Sweden
Mr. Tor HOLTAN-HARTWIG	Director, Kirke-og undervisnings departementet Oslo-Dep. Oslo 1, Norway
Mr. David HUGHES-EVANS	Farnborough College of Technology Boundary Road Farnborough Hampshire, United Kingdom
Mr. Hans-Jörgen KARLSSON	Swedish National Board of Education 10642 Stockholm, Sweden
Mr. Svein KÅRHUS	The Norwegian High School of Physical Education Sognsveien 220 Oslo 8, Norway
Mr. Jaroslav KOCÍ	Ministry of Education Karmelitská 7 11812 Prague 1, Czechoslovakia
Mrs. Bodil LAURELL	Slingan 28 30230 Halmstad, Sweden
Mr. George LOWE	Office of Commissioner USOE 10 HEW 400 Maryland Avenue S.W. Washington, D.C. 20202, USA
Mr. Nils OKER-BLOM	International Council of Scientific Unions Department of Virologie Haartmaninkatu 3 00290 Helsinki 29, Finland
Mr. E. OLESCHKEVIC	Council for Mutual Economic Assistance 56 Prospekt Kalinina 121205 Moscow G-205, U.S.S.R.
Mr. Claus Helweg OVESEN	National Agency for the Conservation of National Monuments and Sites Nyropsgade 22, 5 DK-1602 Copenhagen, Denmark
Ms. Aristi PAPADOUPOULOU	Educational Books Centre Tsimiski 30 Saloniki, Greece
Mr. Torp PEDERSEN	Directorate for Teacher Training Colleges in Denmark Ministry of Education Nørrevang 19 DK-7300 Jellig, Denmark

Mr. Jaap B. PIETERS	Ministry of Cultural Affairs, Recreation and Social Welfare Department of Nature Preservatio Steenvoordelaan 370 Ryswyk, Netherlands
Mr. Victor POPOV	Université de Kazan Kazan 420008, U.S.S.R.
Mr. Pertti SEISKARI	Counsellor of Nature Conservation Ministry of Agriculture and Forestry Helsinki, Finland
Mr. Henning SØRENSEN	Geological Survey of Denmark Thoravej 31 DK-2400 Copenhagen, Denmark
Ms. Hillary SUFFERN	The British Council Science and Mathematics Education Unit 10 Spring Gardens London SW1A 2BN, United Kingdom
Mr. Anton TRANT	Curriculum Unit Trinity College 28, Westland Row Dublin 2, Southern Ireland
Mrs. Auli VALLE	League of Red Cross Societies 1211 Geneva 19, Switzerland
Mr. Jørgen VILLADSEN	Secretary for Cultural Cooperation in the Nordic Countries Snaregade 10 1405 Copenhagen K, Denmark
Mr. Anders WIJKMAN	Chairman, Swedish Preparatory Committee for the International Conference on Environmental Education Swedish National Commission for Unesco Ministry of Education P.O. Box 10310 Stockholm 2, Sweden
Mr. Gunnar ZETTERSTEN	National Swedish Environment Protection Board P.O. Box S-171 20 Solna, Sweden

III. UNEP REPRESENTATIVES - REPRESENTANTS DE L'UNEP - ПРЕДСТАВИТЕЛИ ЮНЕП

Mr. G. BIRYUKOV	UNEP Liaison Office Palais des Nations 1211 Geneva 10, Switzerland

Mr. A. BUZZATTI-TRAVERSO	2 bis, Avenue de Ségur 75007 Paris
Mr. Victor JOHNSON	Senior Programme Officer Education and Training Division of Economic and Social Programmes UNEP P.O. Box 30552 Nairobi, Kenya

IV. UNESCO SECRETARIAT - SECRETARIAT DE L'UNESCO - СЕКРЕТАРИАТ ЮНЕСКО

Mr. Simon ROMERO-LOZANO	Chief, Environmental Education Programme UNESCO 7, Place de Fontenoy 75007 Paris
Mr. Victor KOLYBINE	Programme Specialist Environmental Education Section UNESCO
Mr. Lars RUDSTRÖM	Programme Specialist Environmental Education Section UNESCO
Mrs. Leonora GIARRATANO	Administrative Assistant Environmental Education Section UNESCO

ANNEX NO.4

LIST OF COUNTRY PAPERS AND DOCUMENTS

AUSTRIA

1. State of environmental education activities in Austria
by : L. Mandl
Vienna, 27 December 1976

BULGARIA

2. Activites relatives à l'enseignement et l'éducation sur la préservation de l'environnement en République Populaire de Bulgarie

CANADA

3. Environmental education in Canada
by : Charles A. Hopkins
Shelburne, Ontario

CYPRUS

4. Environmental education in Cyprus
by : C.N. Economou
Nicosia, January 1977

DENMARK

5. Recent trends of the influence of environmental education on higher secondary education in Denmark
by : Poul Breum
January 1977

6. Environmental education in Denmark
by : E. Torp Pedersen
21 January 1977

7. Landscape planning and area-resources for education in biology, history and geography in Denmark
by : Claus Helweg Ovesen
Copenhagen, January 1977

8. Environmental education activities of private organizations in Denmark with reference to coordination and cooperation with public authorities for environmental protection
by : Claus Helweg Ovesen
Copenhagen, January 1977

9. Museums and schools
by : Sten Krog Clausen
Copenhagen, January 1977

FRANCE

10. Une éducation pour l'environnement : Changer le rapport de l'individu à l'environnement?
by : André Giordan

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11. L'éducation relative à l'environnement en France
by : René Heller
Copenhagen, January 1977

GREECE

12. Centre du livre éducatif
by : Aristi Papadopoulou
Tsimiski, Salonique

FINLAND

13. Finnish and Swedish "New Towns" - Lessons of experiences
by : Kirsti Wärtiovaara
Berkeley, Spring 1969

FEDERAL REPUBLIC OF GERMANY

14. Abstract of some environmental education activities in the Federal Republic of Germany
by : Peter Schneider
Essen, January 1977

15. Development and research in the field of interdisciplinary environmental education
by : G. Eulefeld
Institute for Science Education, Kiel

16. An ecological approach to restructuring school biology
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Kiel, August 1976

GERMAN DEMOCRATIC REPUBLIC

17. The role of environmental education in the German Democratic Republic

18. Prerequisites for effective environmental education with some examples from the German Democratic Republic
by : R. Hundt

HUNGARY

19. Secondary and vocational environmental education
by : Enikö Szalay-Marszó
Budapest, December 1976

ICELAND

20. Environmental education in Iceland
by : Reynir Bjarnason
Reykjavík

ITALY

21. Situation de l'éducation relative à l'environnement dans le cadre des systèmes d'enseignement formel et non formel en Italie
by : Antonio Moroni
Parma

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LUXEMBOURG

22. Court aperçu sur la situation de l'éducation relative à l'environnement dans l'enseignement primaire, technique et secondaire au grand-duche de Luxembourg
by : Jean Reuter

MALTA

23. Environmental education activities in Malta
by : Louis J. Saliba
Msida

NETHERLANDS

24. Recommendations with regard to an environmental education policy plan
by : The Nature Conservation Education Committee
Rijswijk, May 1975

25. A Survey of environmental education activities in the Netherlands

26. Service for environmental education - survey of aims and activities
by : The Municipal Office for School Children's Gardens
The Hague, 1975

27. Service for School and Children's Gardens
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The Hague

28. Service des écoles et des jardins d'enfants - initiation au problème de l'environnement et activité du Service des écoles et des jardins d'enfants à la Haye

29. Measuring environmental awareness
by : L.J.M. Scheurs
Nijmegen

30. Organisms in the environment
by : Harry Wals
The Hague, 6 May 1974

NORWAY

31. Environmental education at the university level
by : Olaf I. Rønning
Trondheim

32. Environmental education in technical training
by : Terje Halmø
Trondheim

33. Environmental education in Norway at the post-secondary level - an overview
by : The Ministry of Environment
Oslo, September 1976

34. Some central issues in environmental education in Norway today
by : Olaf J. Rønning and Rolf Sverre Fostervold
Oslo, January 1977 (Report No.5)

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by : Rolv Sverre Fostervold and Svein Karhus
Trondheim, January 1977

36. Environmental education and the working environment
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by : Svein Karhus
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38. Some problems of environment protection and management in the didactic and educational programmes at the university level in Poland
by : A. Bednarek
Warsaw, January 1977

39. Problems of environment protection in the Polish school system
by : Danuta Cichy

SWEDEN

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41. Nordic Conference on Environmental Education at University Level
by : Lars Emmelin
Frostavallen, 16-19 August 1976

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42. The World Wildlife Fund and Environmental Education
by : The World Wildlife Fund
Morges, 25 January 1977

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43. Manpower requirements and training of environmental health personnel in Ministry of Health, Turkey
by : M. Tokan Engin
Ankara, 1977

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44. Environment and society : educational priorities
by : David Hughes-Evans
Farnborough, April, 1976

45. The aims and activities of the Institution of Environmental Sciences
by : John F. Potter and David Hughes-Evans
Farnborough, 1977

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by : The Department of Educational Sciences

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by : The Town and Country Planning Association and its National Council for Urban Studies Centres
London

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USSR

48. Environmental education in teacher training colleges and secondary schools in the Ukrainian SSR
by : S. Ivtchenko

49. Some activities in environmental education, USSR
by : L.A. Alferov

50. L'éducation relative à l'environnement en URSS
by : L.A. Alferov (in Russian)

51. L'éducation pour l'environnement aux instituts technologiques de RSS de Belorussie
by : V. Romanov (in Russian)

52. L'étude de la protection de l'environnement en D.D.R.
(in Russian)

53. L'environnement humain en vue de l'éducation en CSSR
by : J. Pavleš (in Russian)

54. Enseignement concernant l'interaction de l'homme et de l'environnement dans les instituts pédagogiques et les écoles secondaires de la RSS d'Ukraine
by : S. Ivtchenko (in Russian)

ORGANIZATIONS

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by : Unesco

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by : Unesco

57. Nordic Education Cooperation
by : The Secretariat for Nordic Cultural Cooperation

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by : Council of Europe, Strasbourg, 3 May 1976

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63. The League of Red Cross Societies and Environmental Education
by : League of Red Cross Societies

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